8th Class

PHYSICAL SCIENCE

LESSON PLANS

(2024 - 2025)

As per the guidelines of
Department of school Education, AP

Special Edition

I hope this book will be one of the ways to your Success...

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YEAR PLAN

2024-2025

CLASS: **08** SUBJECT: **PHYSICAL SCIENCE**

S.NO	MONTH	Working Days	Syllabus to be covered	Required Periods	Special Activitiesto be conducted	Resources required	Remarks
1	**June 2024**	14	Force and Pressure		1. School Reopening (13) 2. National Reading Day (19) 3. International Yoga Day (21)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	-
2	**July 2024**	25	Force and Pressure Coal and Petroleum		1. Doctors Day (1) 2. World Population Day (11) 3. Pi Approximation Day (22) 4. World Hepatitis Day (28)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	
3	**Aug 2024**	24	Friction		1. Hiroshima Day (6) 2. Friendship Day (7) 3.Independence Day (15) 4. Photography Day (19) 5. World Mosquito Day (20)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	**FA1** **June, July syllabus**
4	**Sep 2024**	22	Chemical effects of electric current		1. Teacher's Day (5) 2. International Literacy Day (8) 3. World Ozone Day (16) 4. World Tourism Day (27) 5. World Rabies Day (28)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab	**FA2**

						6. Digital Room 7. IFP 8. Swift chart	**August, September syllabus**
5	**Oct 2024**	17/23	Chemical effects of electric current Sound		1. World Animal Welfare Day (4) 2. Indian Air Force Day (8) 3. World Postal Day (9) 4. Global handwashing Day (15) 5. World Food Day (16)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	
6	**Nov 2024**	25	Sound		1. National Cancer Awareness Day (7) 2. National EducationDay (11) 3. Children's Day (14) 4. National Constitution Day (26)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	**SA1** **June to October syllabus**
7	**Dec 2024**	24/ 17	Combustion and flame		1. World AIDS Day(1) 2. Anti-Pollution Day(2) 3. Farmer's Day (23) 4. International Dayfor Biodiversity (29)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	-
8	**Jan 2025**	19/ 20	Light		1. World Braille Day(4) 2. National Safety Day(11) 3. Republic Day (26)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	**FA3** **November, December syllabus**
			Light		1. National Science Day (28)	1. Academic Calendar 2024-25 2. Text Books	

9	**Feb 2025**	23	Some natural phenomena			3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	**FA4** **January, February syllabus**
10.	**Mar 2025**	23	Some natural phenomena		1. World Wildlife Day(3) 2. World Consumer Right's Day (15) 3. World Theatre Day(27)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	
11	**Apr 2025**	16	Revision		1. World Autism Day(2) 2. World Health Day(7)	1. Academic Calendar 2024-25 2. Text Books 3. DIKSHA App 4. YouTube video's Link 5. Lab 6. Digital Room 7. IFP 8. Swift chart	**SA2** **Total syllabus**
TOTAL		**232**					

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
FORCE AND PRESSURE (Chapter -1)	Force- A push or pull				
	Forces are due to an interaction				
	Exploring forces				
	A force can change the state of motion				
	Force can change the shape of an object				
	Contact forces Muscular force				
	Non-contact forces Magnetic force				
	Pressure				
	Pressure exerted by liquids and gases				
	Atmospheric pressure				

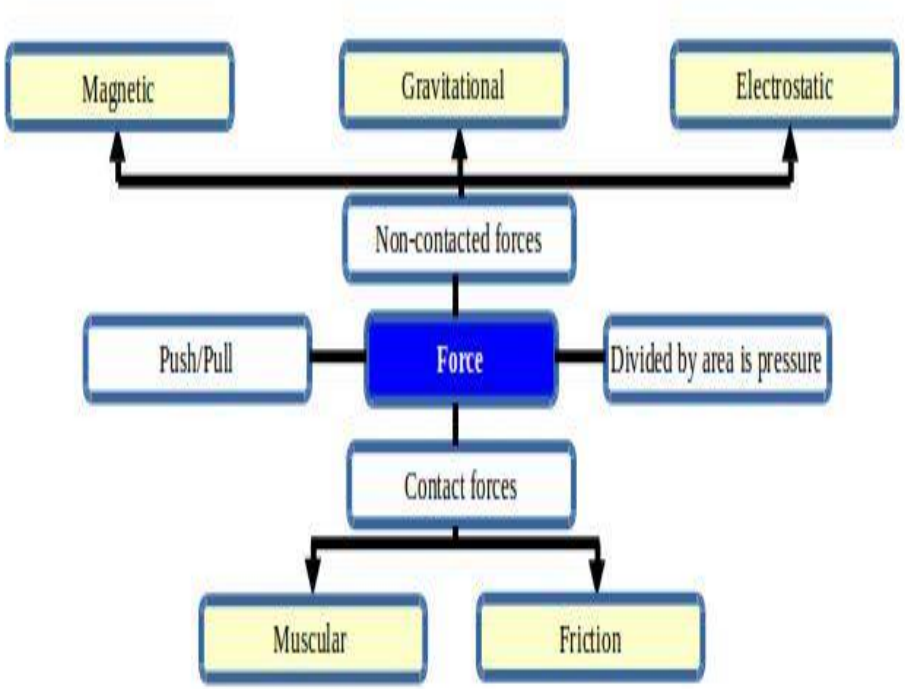
Prior Concept/Skills:

1. When do objects move from the rest position?
2. What type of action need to open your house door?
3. How do fielders stop a ball hit by a batsman?
4. Why does the shape of the toothpaste tube change when we squeeze it?

Learning Outcomes:	**No. of Periods**
1. Classifies situations based on applied force whether it is pushed or pulled. **2.** Differentiate materials of contact and non-contact forces. **3.** Flow chart of types of forces. **4.** Measure the net force on the system/object **5.** Conduct a simple investigation to seek answers to queries about when a body is dropped from a building, the speed of the falling body increases. **6.** Writes word equation for pressure. **7.** Relates process with causes of the area of contact depending on the pressure. **8.** Relates processes and phenomenon with causes why is cutting edge of knife made sharper. **9.** Measure the atmospheric pressure **10.** Conduct a simple investigation to seek answers to queries about Do liquids exert equal pressure at the same depth? **11.** Applies to learning of scientific concepts in the day-to-day life of pressure situations **12.** Discusses and appreciates stories of scientific discoveries of Otto von Guericke.	

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students are usages the different types of forces in our daily life and Identify the types of force with situations.
2. Students collect the information of atmospheric pressure
3. Observe the filling of air into the vehicle tyres and collect the data of how much air pressure is needed for the vehicles.
4. Students are able to understand the applications of pressure in our daily life and utilized it.

Explicit Teaching/Teacher Modelling (I Do)	**Group Work (We Do)**	**Independent Work (You Do)**	**Notes for:**
1. Discussion and Identify actions as push or pull. 2. Discussion and Illustrations of forces are due to an interaction.	1. Students complete the puzzle on activities of push or pull 2. Students collect the information of forces are due to an interaction.	1. Students identify the push and pull action 2. Students give examples	1. Express when you apply push and pull in daily life

3. Discussion and Explain of Exploring Forces	3. Solved the problems of net force in own way	3. Write the definition of the net force	2. What is the unit of force?
4. Explain that a force can change the state of motion	4. Students give daily life examples.	4. Students complete the homework	3. What can bring change in state of motion of an object?
5. Explain that a force can change the shape of an object.	5. Students conduct activities on the shapes of an object changes when a force applies.	5. Students observe the activity steps.	
6. Explain and conduct activities of contact Forces.	6. Collect information on contact forces.	6. Students draw the flow chart of contact forces.	4. What does a non-contact force require?
7. Explain and conduct activities of Non-contact Forces.	7. Conduct an oral quiz on types of forces	7. Draw the flow chart of non-contact forces.	
8. Conduct and observe an experiment of attraction and repulsion between two magnets.	8. Students collect the magnetic materials	8. Express the procedure of the experiment in own way.	5. Can force act without an interaction between two objects?
9. Conduct and observe an experiment of a straw rubbed with paper attracts another straw but repels it if it has also been rubbed with a sheet of paper.	9. Students complete the task on electrostatic force	9. Students complete the homework.	
10. Discussion and explain the concept of pressure.	10. Group discussion on pressure	10. Expressed units of pressure	6. Write the formula of pressure?
11. Conduct an experiment of pressure exerted by liquids and gases.	11. Collect the information of pressure exerted by liquids and gases.	11. Express the properties of liquids'	7. Write any two applications of atmospheric pressure.
12. Explain atmospheric pressure.			
13. Discussion on applications of Pressure	12.Students collect the information of pressure and applications of pressure in our daily life	13. Solved the problems in own way	

Check For Understanding Questions	TLM's (Digital+Print)
1. Factual: 1. What happens to the spring fixed to the seat of a bicycle when we sit on it? 2. Why do balloons expand when filled with air? 3. Why the tip of a sewing needle is sharp? **2. Open Ended/Critical Thinking:** 1. Is the gravity a property of earth only? 2. Why are we not crushed by atmospheric pressure? 3. If gravitational force exists then why does fire go in the upward direction? **3. Student Practice Questions & Activities:** 1. Give two examples of situations in which applied force causes a change in the shape of an object. 2. A blacksmith hammers a hot piece of iron while making a tool. How does the force due to hammering affect the piece of iron? 3. Name the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting on the bucket do not bring a change in its state of motion. 4. Describe an activity on how pressure is exerted by the liquids.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:

1. Do you think sometimes the application of force does not result in a change in the state of motion?- Discuss.
2. Porters place a round piece of cloth on their heads when they have to carry heavy loads. Why?
3. Calculate the pressure, if a force of 100 N acts on area of 10 m^2 ?
4. Collect the information between contact forces and non-contact forces.

SIGNATURE OF THE TEACHER

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VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Coal and Petroleum (Chapter-3)	Natural resources				
	Coal				
	Coke - Coal Tar - Coal gas				
	Petroleum - Refining of Petroleum				
	Natural Gas				
	Some Natural Resources are Limited				

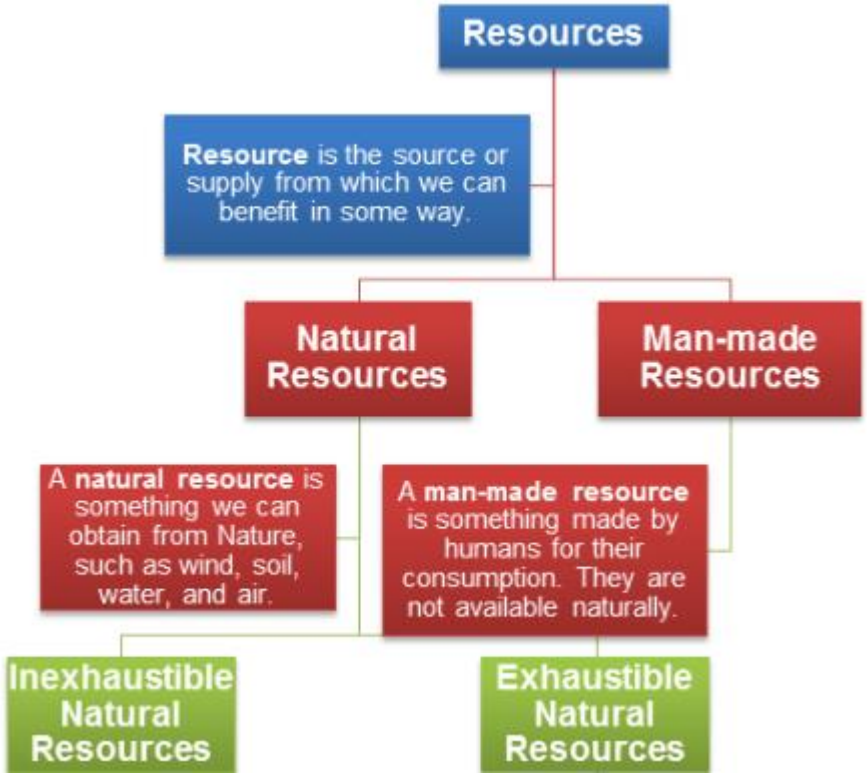
Prior Concept/Skills:

1. What fuel do you use to cook food?
2. Are these fuels man-made?
3. Do you know where the fuels used to run the vehicles come from?

Learning Outcomes:	**No. of Periods**
1. Classifies materials based on properties of exhaustible and inexhaustible natural resources. 2. Applies learning of scientific concepts in day-to-day life of using of natural resources. 3. Relates processes with causes of air pollutant by the utilization of exhaustible natural resources. 4. Explains processes of formation of petroleum. 5. Explains process and phenomenon of petroleum refining. 6. Draws labeled diagram of Petroleum and natural gas deposits. 7. Conducts simple investigations to seek answers to queries of petroleum refining. 8. Makes efforts to protect environment using of petroleum products judiciously. 9. Relates processes with causes of air pollutant by the utilization of exhaustible natural resources. 10. Applies learning of scientific concepts in day-to-day life of various constituents of petroleum and their uses. 11. Exhibits creativity in designing, planning, making use of various constituents of Petroleum. 12. Draws flow chart of uses of petroleum products.	

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students use resources properly for future needs.
2. Students will protect the environment by using petroleum products according to their needs.
3. Students understand how fuels are made and conserve fuels.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and Explain resources by natural and man-made.	1. Students give examples of natural resources.	1. Students identify the natural and man-made resources.	1. What are natural resources?

2. Discussion and Explain Natural resources and their types.	2. Students make a survey on the energy consumption (coal, gas, electricity, petrol, kerosene etc,) and measures to conserve the energy of their neighborhood.	2. Students give examples of inexhaustible and exhaustible resources.	2.Can natural resources be replaced?
3. Explain coal and the story of coal.	3. Is coal fossil fuels? - Discuss	3. Students complete the homework.	3. Give any two uses of Coal
4. Discussion and Explain the products of coal.	4. Students prepare the uses of coal in table form	4. Students give the reason about Why is coal so black?	4. What are the different types of coals?
6. Explain the formation of petroleum.	6. Students collect some information about the coal and petroleum deposits in India and mark them in outline map of India and World map.	6. Find out the location of major thermal power plants in India. What could be the reasons for their being located at those places?	5. Where is the petroleum found in India?
7. Discussion and Explain the refining of petroleum.	7. Students explain the refining of petroleum in own way.	7. Students express the physical properties of petroleum.	6. What is the main principle of petroleum refining?
8. Explain various constituents of petroleum and their uses.	8. Students collect the information on various constituents of petroleum and their uses.	8. Students complete the homework.	7. Why should we use petroleum substance in limits?
10. Explain Natural gas.	10. What would happen if fossil fuels were banned? ---- Discuss	10. Students expand the terms of CNG and LPG.	8. How is natural gas stored?
11. Discussion and Explain some natural resources are limited.	11. Collect the information on how to save petrol/diesel while driving.	11. What are the effects on the environment of burning fuels?	9. How does petroleum affect the environment?

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Which coal is mostly found in India? 2. What are impurities in petroleum? 3. What are the most critical natural resources? **2. Open Ended/Critical Thinking:** 1. Why is Petroleum called black gold? 2. What happen if natural resources disappear? 3. What problems do people face when using natural resources? 4. How long can petrol be stored? **3. Student Practice Questions & Activities:** 1. What are the advantages of using CNG and LPG as fuels? 2. Explain why fossil fuels are exhaustible natural resources. 3. Describe characteristics and uses of coke. 4. Explain the process of formation of petroleum.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:

1. Suggest ways in which consumption of fuels can be reduced.
2. Name the different constituents of petroleum and write their uses.
3. What is refining? Why does petroleum require refining?
4. Differentiate between exhaustible and inexhaustible natural resources.

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VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
FRICTION (Chapter-2)	Force of friction				
	Factors affecting friction				
	Friction: A Necessary Evil				
	Increasing and Reducing Friction				
	Wheels Reduce Friction				
	Fluid Friction				

Prior Concept/Skills:

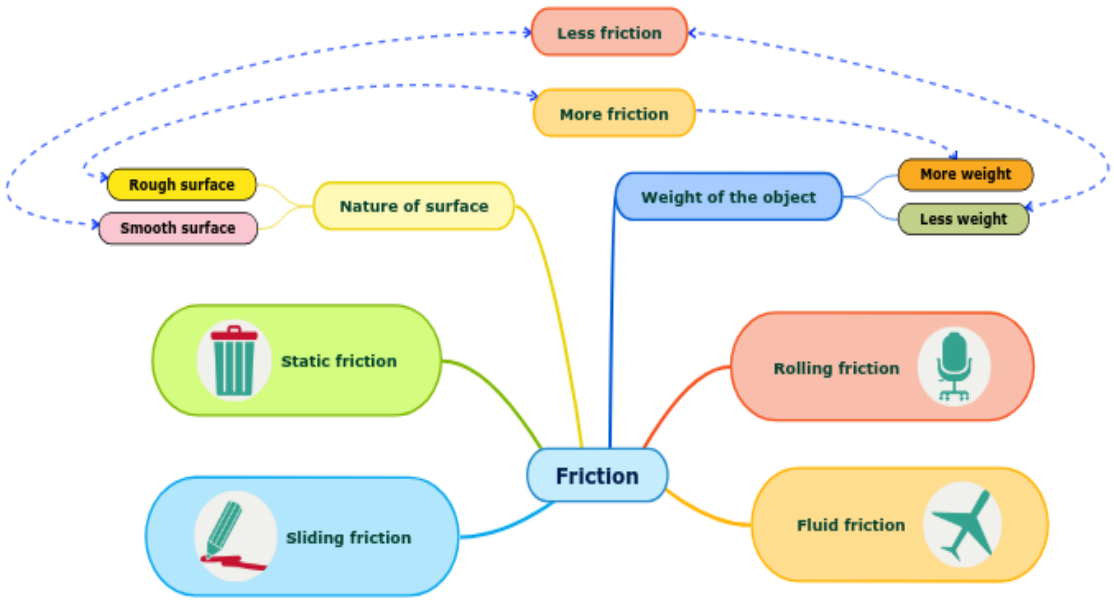
1. Why do we fall when we step on a banana peel?
2. Why do kabaddi players rub their hands with soil?
3. Give examples of contact forces.
4. Which force always acts on all the moving objects and its direction is always opposite to the direction of motion?

Learning Outcomes: **No. of Periods**

1. Conducts simple investigation to seek answers to queries "Is the friction the same for all the surfaces?"
2. Explains processes and phenomenon of factors affecting friction.
3. Makes efforts to protect environment of using of lubricants.
4. Applies learning of scientific concepts in day-to-day life of increasing or reducing friction.
5. Conducts simple investigations to seek answers to queries of can we reduce friction to zero by polishing surfaces or using large amount of lubricants.
6. Relates processes with causes of increasing and reducing friction.
7. Differentiates frictions based on characteristics.
8. Draws the flow charts of types of frictions.
9. Exhibits creativity in designing, planning, making use of lubricants.
10. Constructs models using materials from surroundings and explains their working of ball bearings in machines.
11. Explains processes of making of special shape objects
12. Applies learning of scientific concepts in the day-to-day life of streamlined objects.
13. Relates process and phenomenon with causes fluids exert the force of friction on objects in motion through them.

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students utilize the concept of friction in the driving of a vehicle on a surface, applying breaks to stop a moving vehicle.
2. Students are able to utilize the friction concept to face their daily life situations.
3. Students understand the working of machines based on ball bearings.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion on 'Why is it difficult to walk on a smooth and wet floor'? with suitable examples	1. Collet the information of force of Friction.	1. Students express walking on different surfaces	1. Define the force of friction?
2. Explain and conduct an activity of friction opposes relative motion between the surfaces of the book and	2. Students conduct activities and find out friction opposes relative motion between the surfaces of the book and	2. What is the role of friction in daily life?	2. Friction opposes the relative motion between two

the table	the table.		surfaces in contact.
3. Discussion and explanation of factors affecting Friction.	3. Collect the information on factors affecting friction.	3. The student gives examples of each case where friction is affecting.	
4. Explain and conduct an activity of friction depends on the nature of the surface.	4. Students collect the spring balance, polythene and brick.	4. Students measure the reading on the spring balance.	3. Spring balance is a device used for measuring the force acting on an object.
5. Explain and conduct an activity of friction depends on the nature of the surface.	5. Conduct activity and describe the procedure of the activity.	5. Students complete the homework	
6. Conduct an activity to prove that sliding friction is smaller than static friction.	6. Discussion on comparison between sliding friction and static friction.	6. Comparing sliding friction with static friction.	4. Differentiate between static friction and sliding friction.
7. Discussion and give illustrations on " Friction is a necessary evil"	7. Collect information of friction is both a friend and a foe.	7. Students give a few examples of friction being a necessary evil.	
8. Explain Increasing and Reducing Friction.	8. Students collect the sports shoes and observe the role of sole in decreasing the friction.	8.Students give examples of reducing friction in our daily situations.	5. Explain increasing and reducing friction with examples.
9. Conduct an activity in the rolling friction is smaller than the sliding friction.	9. Arrange the experimental setup activity.	9. Students give reason about why rolling friction produces the least friction.	6. Write a few examples where sliding friction is replaced by rolling friction.
10. Discussion and explanation of ball bearings reduce friction.	10. Imagine that friction suddenly vanishes. How would life be affected? List ten such situations.	10. Students draw a rough diagram of the ball bearing.	
11. Explain fluids friction with examples.	11. Students do an activity with water in a container and observe the drag in fluids.	11. Students complete the homework.	7. On what factors does the fluid friction depends?

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Why it is difficult to move on a wet marble surface? 2. Can we eliminate friction completely? 3. Why sliding friction is less than static friction. 4. Why is the friction caused? **2. Open Ended/Critical Thinking:** 1. Why our hands become warmer when we run them? 2. Which is easier to hold in hand an earthen pot or glass tumbler. Why? Discuss 3. If there was no friction, what would happen to a moving object? **3. Student Practice Questions & Activities:** 1. Explain why sliding friction is less than static friction. 2. Give examples to show that friction is both a friend and a foe. 3. Explain why objects moving in fluids must have special shapes. 4. Why is 'friction: a necessary evil'? Explain.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:

1. How do lubricants help to reduce friction?
2. Give some examples that friction is necessary for everyday activities.
3. Explain why objects moving in fluids must have special shapes.
4. Suggest some methods to increase friction.

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Chemical Effects of Electric Current (Chapter-8)	Conductors and Poor conductors				
	Do Liquids Conduct Electricity?				
	Good/Poor Conducting Liquids				
	Chemical Effects of Electric Current				
	Electroplating				

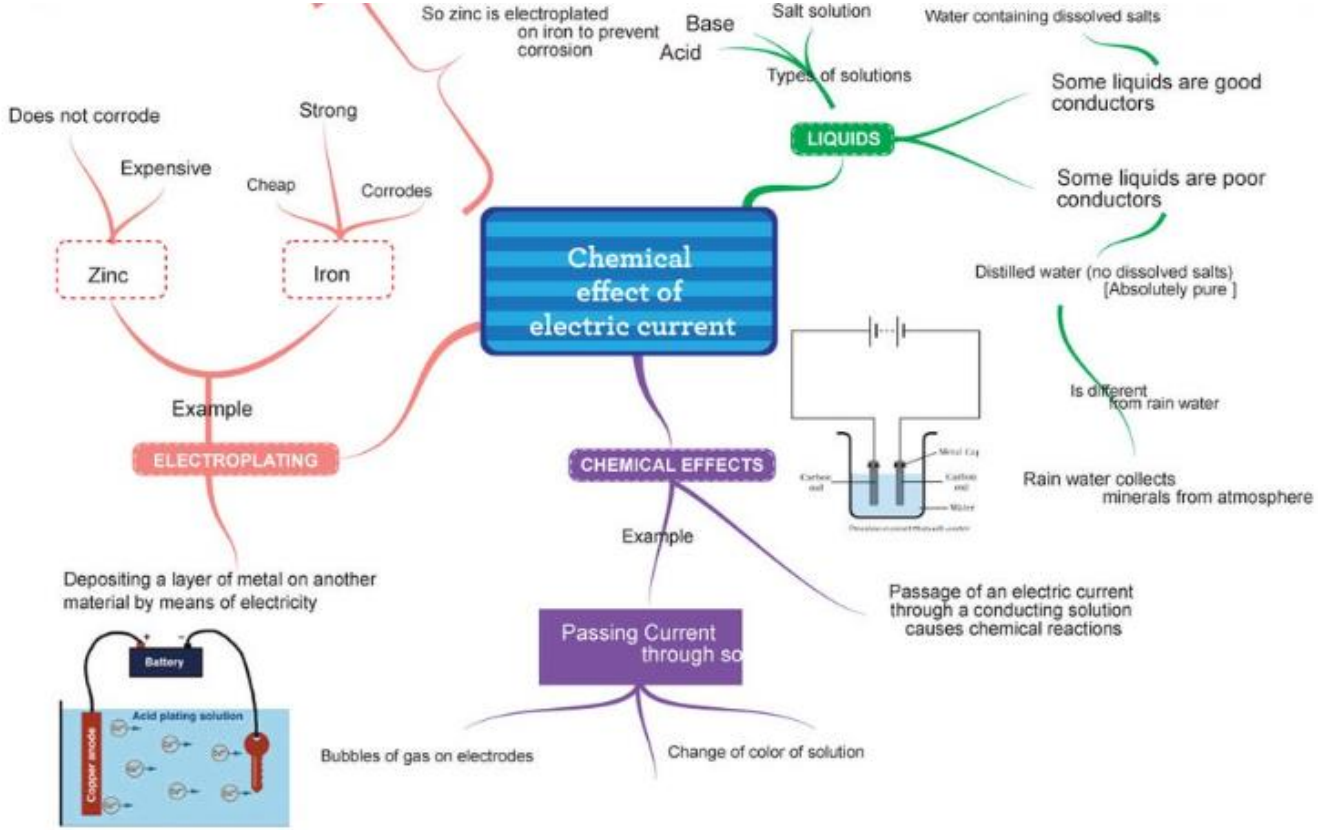
Prior Concept/Skills:

1. What should be applied to household iron tools to prevent them from getting damaged by moisture or water?
2. What is the bulb used in testers?
3. What is the difference between conductors and insulators of electricity?

Learning Outcomes:	**No. of Periods**
1. Classifies solids based on properties as conductors and poor conductors. 2. Differentiates materials of liquids as electrical conductors and insulators. 3. Relates processes with causes of acids conduct electricity. 4. Conducts simple investigations to seek answers to queries about Does pure water conduct electricity? 5. Draws labelled diagram of passing current through water 6. Explains processes of chemical effects of electric current. 7. Discusses and appreciates stories of scientific discoveries of British chemist William Nicholson. 8. Explains processes of electroplating 9. Applies learning of scientific concepts in day-to-day life in uses of electroplating 10. Makes efforts to protect the environment of conduct electroplating. 11. Conducts simple investigations to seek answers to queries of Why coating of zinc is deposited on iron to protect it from corrosion and formation of rust. 12. Makes efforts to protect the environment of conduct electroplating. 13. Draws flow chart of applications of electroplating	

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students will learn the applications of electroplating in daily life and take care of the tools at home to longer time.
2. Students will play their part in protecting the environment from pollution caused by electroplating in daily life.
3. Students will be able to identify which of the liquids they use are electrical conductors and which are poor conductors.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and conduct an activity on the good conductor and poor conductor as a tester. 2. Explain and Conduct an activity on	1. Students will give examples of conductors and poor conductors of solids. 2. Students conduct the activity.	1. Students give definitions of good conductor and poor conductor. 2. Students draw the diagram of	1. What is the significance of conductors in your daily lives? 2. When an electric current

"Does lemon juice or vinegar conduct electricity?.		testing conduction of electricity in lemon juice or vinegar.	is passed through vinegar or lemon juice then the bulb glows very dimly. Why?
3. Demonstration and Explain LED	3. Why LED glow even when a weak electric current flows through it. – Discuss	3. Students complete the homework.	3. How many terminals in LED?
4. Discussion and conduct an activity on Whether the compass needle shows deflections near the electric circuit.	4. Students represent the information of good/poor conducting liquids in tabular form.	4. Comparing the deflections of needle in the compass.	4. Why does compass needle get deflected?
5. Explain liquids are good and poor conductors of electricity.	5. Why pure water does not conduct electricity? – discuss	5. Students give examples of liquids being good and poor conductors of electricity.	5. Why do liquids conduct electricity?
6. Explain and conduct an activity on distilled water is free of salts, it is a poor conductor.	6. Students draw the diagram of passing current through water.		6. Why is distilled water a poor conductor?
7. Explain and conduct an activity on chemical effects of electric current with passing current through water.	7. Students draw the diagram of given activity	6. Students will give reasons, What are the other substances which, when dissolved in distilled water, make it conduct?	7. What happens when electric current pass through water?
8. Conduct an activity to test whether some fruits and vegetables conduct electricity.	8. Students conduct an experiment on the conduction of electricity through various fruits and vegetables. Display results in tabular form.	7. Students explain "How do fruits and vegetables conduct electricity?"	8. Which fruit or vegetable is the best conductor of electricity?
9. Explain the process of electroplating.		8. Students read the history of British chemist, William Nicholson.	9. What is main principle of electroplating?
10. Discussion and conduct an activity on electroplating with a simple electric circuit.	9. Students describe the electroplating method	9. Students arrange the materials in the correct manner.	10. Why are metals electroplated?
11. Discussion and explain the applications of electroplating in daily life.	10. Students collect the information of applications of electroplating.	10. What are the applications of electroplating in daily life	11. Is electroplating permanent?

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Why does the concentration of the electrolyte remain constant during electroplating? 2. Is electroplating a displacement reaction? 3. Does electroplating occur only on anode? **2. Open Ended/Critical Thinking:** 1. Why direct current is used in electroplating? 2. Why does potato turn green on passing current? 3. Why is electroplating hazardous to the environment? **3. Student Practice Questions & Activities:** 1. When the free ends of a tester are dipped into a solution, the magnetic needle shows deflection. Can you explain the reason? 2. Is it safe for the electrician to carry out electrical repairs outdoors during heavy downpour? Explain. 3. Does pure water conduct electricity? If not, what can we do to make it conducting? 4. In case of a fire, before the firemen use the water hoses, they shut off the main electrical supply for the area. Explain why they do this.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:

1. Prepare a list of objects around you that are electroplated.
2. What are the applications of the chemical effect of electricity in our daily life? Give examples.
3. Why is chromium used for electroplating? Why the objects which have chromium plating are not made of chromium itself?
4. Write the applications of electroplating in our daily life.

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Sound (Chapter-5)	Introduction of sound				
	Sound is Produced by a Vibrating Body				
	Sound Produced by Humans				
	Sound Needs a Medium for Propagation				
	We Hear Sound through Our Ears				
	Amplitude, Time Period and Frequency of a Vibration				
	Audible and Inaudible Sounds				
	Noise and Music				
	Noise Pollution				

Prior Concept/Skills:

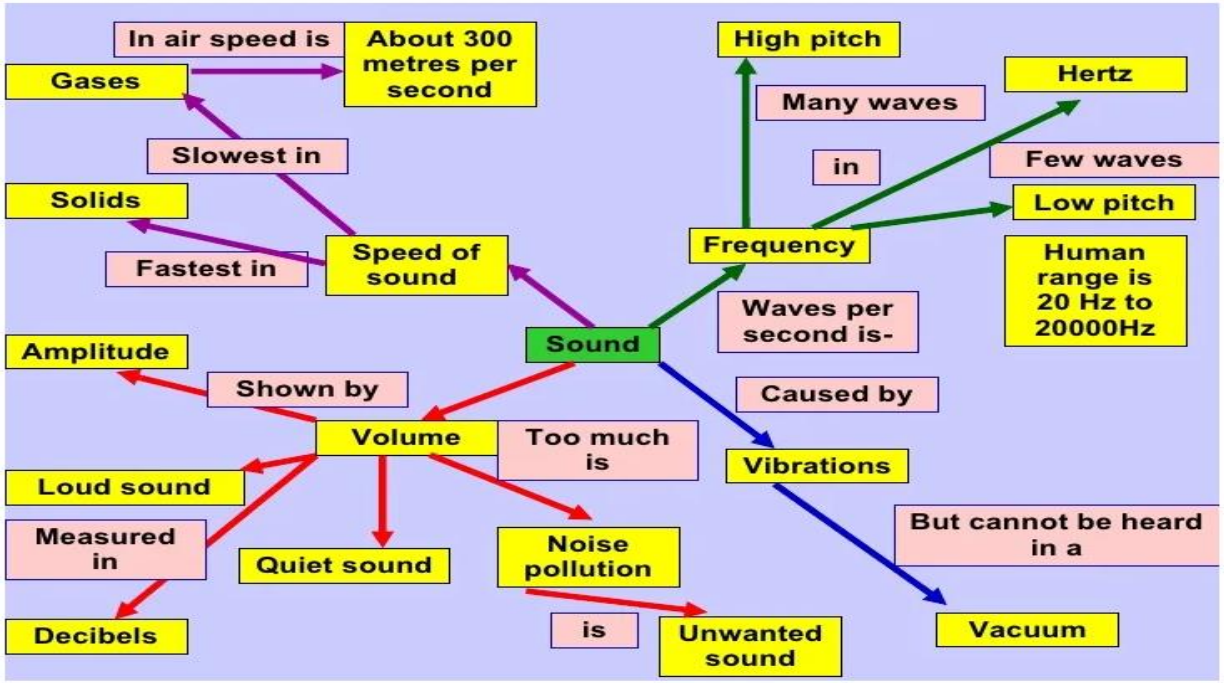
1. If you go to a school assembly, what do you hear?
2. What are the sounds like when there is a traffic jam in the city?
3. Give examples of some forms of energy.

Learning Outcomes: **No. of Periods**

1. Classifies materials based on characteristics of musical instruments.
2. Explains processes of production and propagation of sound.
3. Relates processes and phenomenon with causes of sound needs a medium for propagation.
4. Conduct simple investigations to seek answers to queries of “Why sound waves cannot travel in a vacuum?
5. Discusses and appreciates stories of scientific discoveries of music instruments and famous musicians.
6. Applies learning of scientific concepts in day-to-day life of making musical instruments.
7. Exhibits creativity in designing, planning, making use of musical instruments.
8. Constructs models using materials from surroundings and explains their working of ektara.
9. Explains processes and phenomenon of working of the human ear.
10. Draws labelled diagram of structure of the human ear.
11. Differentiate hearing sounds as music and noise.
12. Differentiate hearing sounds as Audible and Inaudible Sounds.
13. Relates processes and phenomenon with causes of the harms of noise pollution.
14. Makes efforts to protect environment by the reducing of sounds.

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students will learn about the damage caused by noise pollution in daily life.
2. Students estimate the power of the sound and protect the eardrum.
3. Students can hear the sounds of vehicles without seeing them and tell which vehicles they are coming from.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and make a list of sounds you hear in your surroundings.	1. Students will make a list of sounds heard in their surroundings.		1. What are sources of sound?
2. Conduct an activity on sound is produced by a vibrating body with a metal plate/pan and stick.	2. Students conduct an activity.	1. Students hear the vibrations.	2. Can we see vibrations all the time?
3. Conduct an activity on sound is produced by a vibrating body with	3. Students describe the activity.	2. Students observe the vibrations of rubble band.	3. Why do vibrations create sound?

the rubber band and pencil box.			
4. Conduct an activity on sound is produced by a vibrating body with the metal dish, water and spoon.	4. Students observe the vibrations of Water.	3. Students give the reason about Why do vibrations produce sound?	4. Do all bodies produce sound.
5. Explain and making of Ektara	5. Students collect the hollow coconut shell and make an Ektara	4. Students complete the homework.	5. Name two musical instruments which produce sound by vibrating strings.
6. Explain and conduct Jaltarag activity.	6. Students conduct an activity with available materials.		
7. Explain the sound produced by humans.	7. Collect the information on the voice box.	5. Students prepare a list of famous Indian musicians and the instruments they play.	6. Where do humans produce sound?
8. Conduct activity on working of vocal cords.	8. Students observe the working of vocal cords by doing an activity using rubber strips.	6. Students express the working of vocal cords.	7. Why do humans have different voices?
9. Discussion and conduct an activity on sound needs a medium for propagation.	9. Sound and Light are energies. But without medium, sound can't travel? – Discuss	7. Students conduct an activity.	8. What is necessary for propagation of sound?
10. Explain and conduct an activity on sound travelling through a liquid.	10. Group discussion on sound travelling through a liquid.	8. Students complete the homework.	9. Can sound travel through liquids?
11. Explain and conduct an activity on sound travelling through a solid.	11. Students describe the activity in own way.	9. In which medium sound propagates the maximum?	10. In which the speed of sound is maximum?
12. Discussion and Making, Working of a toy telephone.		10. Why is sound a wave?	11. What are 3 main parts of the ear?
13. Explain and conduct an activity on the function of an eardrum.	12. Students draw the structure of human ear.	11. Students express the functioning of a human ear.	12. Write the relation between time period and frequency?
14. Explain the concepts of Amplitude, Time period and Frequency of a vibration.	13. Students collect information about the loudness of sound and its effect on human beings.	12. Define Amplitude, Time period and Frequency?	13. What is the range of ultrasonic sounds?
15. Discussion on Audible and Inaudible sounds.	14. Students give examples of noise and music	13. Students give a range of inaudible and audible sounds	14. How can we distinguish between

16. Explain Noise and music 17. Discussion and explain noise pollution, its effects.	15. Group discussion on noise pollution and its effects on human beings. 16. Reading the scientific stories of sound related.	14. Students complete the homework. 15. Can noise pollution be stopped?	music and noise? 15. Give two examples of noise pollution.

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Is there sound in space? 2. Does temperature affect sound? 3. Why the sound of the baby is feeble? **2. Open Ended/Critical Thinking:** 1. Why does sound carry more at night? 2. What will happen if sound does not exist? 3. What is the quietest sound in the world? **3. Student Practice Questions & Activities:** 1. What is the difference between noise and music? Can music become noise sometimes? 2. Explain in what way noise pollution is harmful to human. 3. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency. 4. Sketch larynx and explain its function in your own words.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:

1. How can you show that sound cannot travel through a vacuum?
2. Explain with an activity that sound travels in liquids.
3. How can we control Noise pollution?
4. Briefly describe the loudness of sound.

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Combustion and Flame (Chapter-10)	What is combustion?				
	How do we control fire?				
	Types of combustion?				
	Flame				
	Structure of a flame				
	What is a fuel – Fuel efficiency and calorific values.				
	Burning of fuels leads to harmful products.				

Prior Concept/Skills:

1. What fuels are used for cooking in your home?
2. What is needed to burn fuels?
3. Currently, what kind of fuels are used in vehicles for environmental protection?

Learning Outcomes:	**No. of Periods**
1. Differentiates materials as combustible and non-combustible substances based on chemical properties. 2. Differentiates materials as fuels based on their chemical properties. 3. Conducts simple investigations to seek answers to queries on the colours of a candle flame. 4. Conducts simple investigations to seek answers to queries,"What are the conditions required for combustion"? 5. Relates processes and phenomena with causes of formation of smoke when burning of fuels. 6. Constructs models using materials from surroundings and explains their working of fire extinguisher. 7. Applies learning of scientific concepts in day-to-day life of taking precautions when catching fire. 8. Explains processes of the structure of flame 9. Draws labelled diagram of different zones of candle flame 10. Draws a flow chart of calorific values of different fuels. 11. Makes efforts to protect environment about the burning of fuels leads to harmful products. 12. Classifies materials as forms flame and does not form flame based on the properties.	

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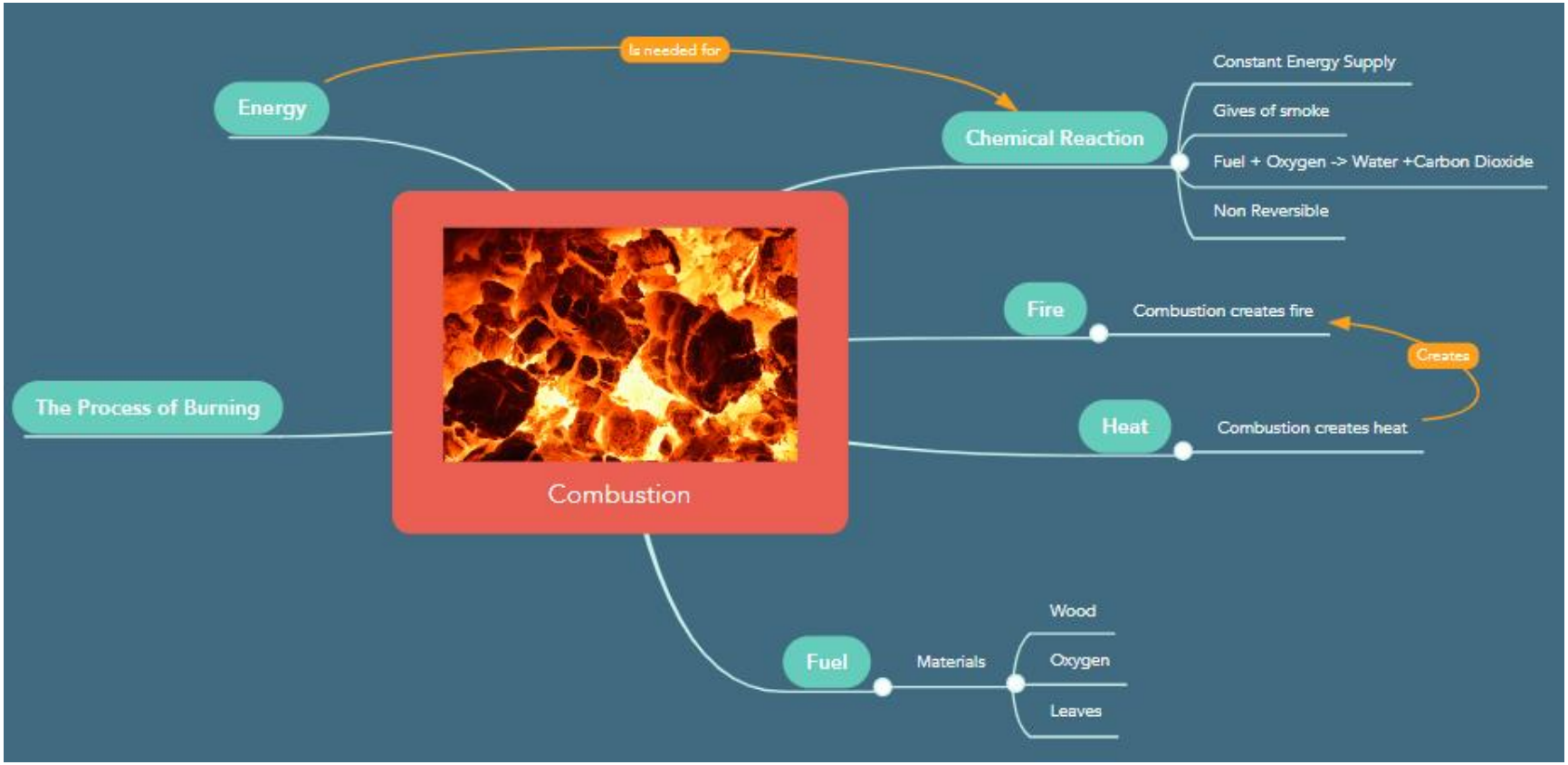

Experience and Reflection:

1. Students know the dangers of burning fossil fuels and play their part in saving the environment.
2. Students will perform the precautions and duties to be taken in case of fire.
3. Students choose the best fuel for their daily life without polluting the environment.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and explain the concepts of combustion and fuel. 2. Conduct an activity on combustible and non-combustible substance like straw, matchsticks, kerosene oil,	1. Students conduct an activity of burning of magnesium. 2. Collect information on combustible and non-combustible substances.	1. Students will give examples of fuels. 2. Students investigate conditions under which combustion takes place	1. How does combustion take place? 2. Why some substances are non-combustible in nature?

paper, iron nails, stone pieces, glass etc.			
3. Explain and conduct an experiment about air is essential for burning with help of candle, chimney and wooden blocks.	3. Students conduct experiments in presence of the teacher.	3. Students will give reasons, why air or oxygen is essential for burning.	3. How the air is important for burning?
4. Discussion and explain the forest fire and precautions to be taken when a person is exposed to fire.	4. Group discussion on "forest fire and prevention steps".	4. Students complete the homework.	4. Which type of combustion is forest a fire?
5. Explain the concepts of Ignition Temperature and inflammable substances.	5. Students will read the history of the matchstick.	5. Students will give examples of inflammable substances.	5. Define ignition temperature.
6. Discussion and explain How do we control fire	6. Students collect the phone numbers of the nearest fire services.	6. Students will give reasons, Why water is used by firemen	6. How can you control fire?
7. Explain the working and importance of fire extinguishers.	7. Students visit to nearest fire services.	7. Students explain the working of fire extinguisher.	7. What gas is inside fire extinguisher?
8. Explain types of combustion.		8. Students write the definitions of types of combustion.	8. What are the 3 types of combustion?
9. Conduct experiment on Candle, Magnesium, Camphor, Kerosene stove and Charcoal materials forming flame on burning.	8. Students will draw the flow charts of combustible and non-combustible substances.	9. Students complete the homework.	
10. Explain and conduct an activity on the Structure of a flame with help of light a candle.	9. Students observe the different zones of flame by lighting a candle.	10. Students draw the structure of flame.	9. Why is the innermost zone of flame not hot?
11. Explain the concepts of fuel and ideal fuel.	10. "Difference between fuel and ideal fuel" – Group discussion.	11. List out the ideal fuel characteristics.	10. Which fuel is known as ideal fuel?
12. Discussion and explain fuel efficiency.	11. Students draw a flow chart of calorific values of different fuels.	12. What is the calorific value of fuel?	11. Write the S.I unit of the calorific value of a fuel.

13. Discussion and explain global warming and acid rain among the results of burning fuels.	12. Discuss on “Global warming “	13. Students will expand CNG.	12. What is acid rain?

Check For Understanding Questions	TLM’s (Digital + Print)
1. Factual: 1. What are the properties of an ideal fuel? 2. Do all the fuels burn with flame? 3. What is the significance of calorific value of fuel? **2. Open Ended/Critical Thinking:** 1. Why coal does not produce flame on burning? 2. Why do flames change color? 3. Why are fire extinguishers red? **3. Student Practice Questions & Activities:** 1. Give reasons. (a) Water is not used to control fires involving electrical equipment. (b) LPG is a better domestic fuel than wood. (c) Paper by itself catches fire easily whereas a piece of paper wrapped around an Aluminium pipe does not 2. Explain how CO2 is able to control fires. 3. Which zone of a flame does a goldsmith use for melting gold and silver and why? 4. List conditions under which combustion can take place.	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP
Assessment: 1. Make a labelled diagram of a candle flame 2. Explain the term “global warming” 3. Give two examples each for a solid, liquid and gaseous fuel along with some important uses. 4. Why is the wood used as a fuel in villages? What are the disadvantages of using wood as a fuel?	

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VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Light (Chapter-7)	What makes things visible – Laws of Reflection				
	Regular and Diffused Reflection				
	Reflected light can be reflected again – Multiple Images				
	Keleidoscope				
	Sunlight:White or Coloured - What is inside our eyes?				
	Care of the eyes				
	Visually Impaired Persons Can Read and Write				
	What is the Braille System				

Prior Concept/Skills:

1. What are the sources of light?
2. Does light travel in all directions?
3. What are the properties of light?

Learning Outcomes:	**No. of Periods**
1. Draw the experimental setups verification of laws of reflection. 2. Applies learning of scientific concepts in day-to-day life of laws of reflections in multiplex halls/theatres. 3. Measures angles of incidence and reflection. 4. Differentiate reflection as regular and diffused reflection. 5. Applies learning of scientific concepts in day-to-day life of regular and diffused reflections. 6. Explains processes and phenomena of formation of multiple images 7. Exhibits creativity in designing, planning, making use of Kaleidoscope. 8. Constructs models using materials from surroundings and explains their working of kaleidoscope. 9. Relates processes and phenomenon with causes of working of human eye. 10. Draws labelled diagram of structure of the human eye 11. Draws the flow charts of how you can take care of eyes. 12. Classifies materials based on characteristics of real and virtual images. 13. Discusses and appreciates stories of scientific discoveries of Louis Braille and Helen A. Keller 14. Conducts simple investigations to seek answers to queries of How does the braille system work?	

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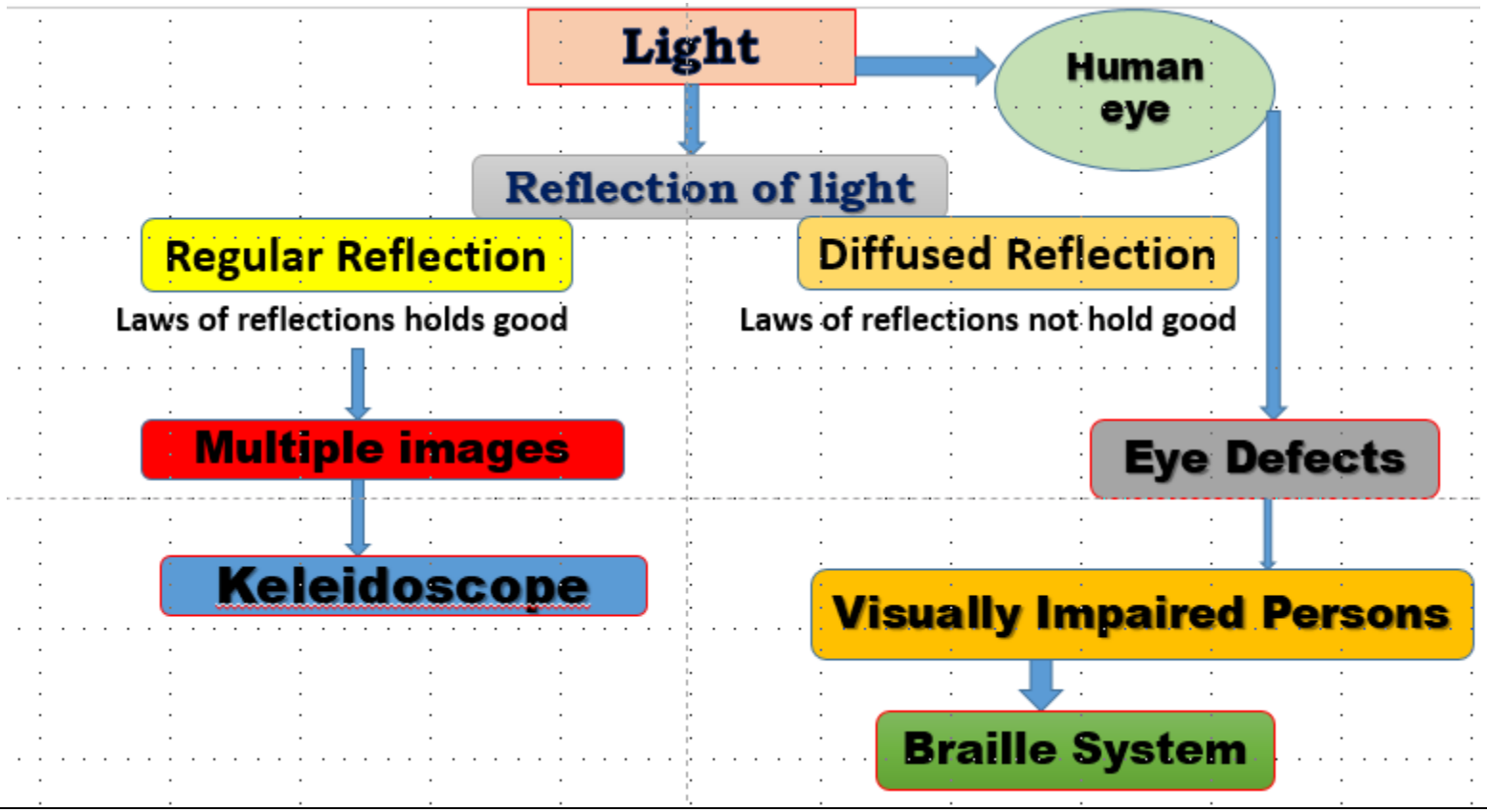
Induction/Introduction:



Experience and Reflection:

1. Students will use the law of reflection of light when installing mirrors in building constructions.
2. Students will learn how to prevent eye problems in daily life and take appropriate precautions.
3. Students will learn how Braille system is used by visually impaired students.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and explain on Can you see an object in the dark? 2. Explain and conduct an activity on showing reflection of light	1. Group discussion on properties of Light. 2. Students draw the incident ray, reflected ray and normal.	1. Students will give reasons why they cannot see the object in the dark? 2. Students express the first law of reflection	1. Do all objects reflect light? 2. What causes light

			reflection?
3. Conduct an activity on the first law of reflection with help of a mirror, drawing board, white sheet, scale and pencil.	3. Students describe the entire procedure.	3. Students collect the materials for the verification of the first law of reflection.	3. What are the effects of reflection of light?
4. Conduct an activity on the second law of reflection with help of a mirror, drawing board, white sheet, scale, protector and pencil.	4. Students measures angle of incidents and angle of reflections.	4. Solved the problems in own way.	4. What is the formula of second law of reflection?
5.Explain and conduct an activity on image formation in a plane mirror.	5. Why lateral inversion takes place in a plane mirror- Group discussion.	5. Students write the characteristics of the plane mirror.	5. What type of image is formed in a plane mirror?
6. Explain regular and diffused reflections.	6. Students give examples of regular and diffused reflections.	6. Define Regular and Diffused reflections.	6. Can image be formed in diffused reflection?
7. Discussion on reflected light can be reflected again.	7. Students visit nearest shopping mall and express their thoughts.		7. Which image is brightest in multiple reflection?
8. Explain and conduct an activity on multiple images formed by a plane mirror.	8. Collect information of multiple images formed by a plane mirror.	7. Students complete the homework.	8. How many images will be formed if two plane mirrors will be placed at 45^0?
9. Explain making and working of kaleidoscope.	9. Students describe the making of kaleidoscope.	8. Students will make the kaleidoscope.	
10. Conduct an activity on dispersion of Light.	10. Students will conduct an activity of dispersion of light.	9. What is the dispersion of light.	9. On what principle kaleidoscope is based?
11. Explain structure and function of human eye.		10. Students draw the structure of the human eye.	10. How many colours in white light? What are they?
12. Demonstration on blind spot and perception of eye.	11. Discussion on the eye perceives object as moving.	11. Students conduct an activity on a bird in case.	11. What are the main parts of the Human eye?
13. Discussion and explain on eye defects and their suitable corrections.	12. Students collect the information of eye defects and corrections.	12. Meet an eye specialist. Get your eye sight checked and discuss how to take care of your eyes	12. What is the main function of blind spot in eye?

14. Explain how you can take care of your eyes. 15. Discussion and explain how visually impaired persons can read and write. 16. Explain Braille system.	13. Debate on care of the eyes. 14. Students read the history of Louis Braille. 15. Collect the information of Braille system.	 13. Students complete the homework 14. What is the Braille system?	13. What is the function of the retina? 14. How can visually impaired person to read and write?

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Where do you find reflection of light in your daily life? 2. Which principle is used in a kaleidoscope? 3. How many dots are used in Braille system? **2. Open Ended/Critical Thinking:** 1. What happens to the size of the pupil of our eye in bright light? 2. What happens when a ray of light falls perpendicularly on the surface of a plane mirror? 3. How can you detect an eye problem? **3. Student Practice Questions & Activities:** 1. Describe an activity to show that the incident ray, the reflected ray and the normal at the point of incidence lie in the same plane. 2. Explain how you can take care of your eyes 3. Describe the construction of a kaleidoscope. 4. Draw a labelled sketch of the human eye. 5. What is the angle of incidence of a ray if the reflected ray is at an angle of 90° to the incident ray?	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP

Assessment:
1. How does the braille system work?
2. Describe an activity to show that the angle of incidence is always equal to the angle of reflection.
3. Differentiate between regular and diffused reflection. Does diffused reflection mean the failure of the laws of reflection?
4. What are the characteristics of image formed by plane mirror?

SIGNATURE OF THE TEACHER

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VISITING OFFICER WITH REMARKS

LESSON PLAN

CLASS: 08 **SUBJECT: PS** **Name of the Teacher:** **Name of the School:**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Some Natural Phenomena (Chapter-9)	Lightning				
	Charging by Rubbing				
	Types of Charges and Their Interaction				
	Transfer of Charge				
	The Story of Lightning				
	Lightning Safety				
	Earthquakes - What is an Earthquake?				
	What Causes an Earthquake?				
	Protection against Earthquakes				

Prior Concept/Skills:

1. What are examples of natural phenomena?
2. What type of charges are transferred on rubbing?
3. Which country faces the most earthquakes?

Learning Outcomes: **No. of Periods**

1. Discusses and appreciates stories of Benjamin Franklin.
2. Relates processes and phenomenon of transfer of charge.
3. Construct model using materials from the surroundings and explains the working of the electroscope.
4. Applies learning of scientific concepts in day to-day life, protection from lighting
5. Draws flow charts of do's and don'ts during a thunderstorm.
6. Applies learning of scientific concepts in day to-day life of lightning conductors used to protect buildings from the effect of lightning
7. Explains processes of earth quake
8. Conducts simple investigations to seek answers to queries of TSUNAMI
9. Draws labelled diagram of seismograph
10. Applies learning of scientific concepts in day to-day life, protection from earthquake.
11. Prepare slides about earth quake incidents.
12. Exhibits creativity in designing, planning in construction of buildings to protect from natural phenomena

TEACHING LEARNING PROCESS

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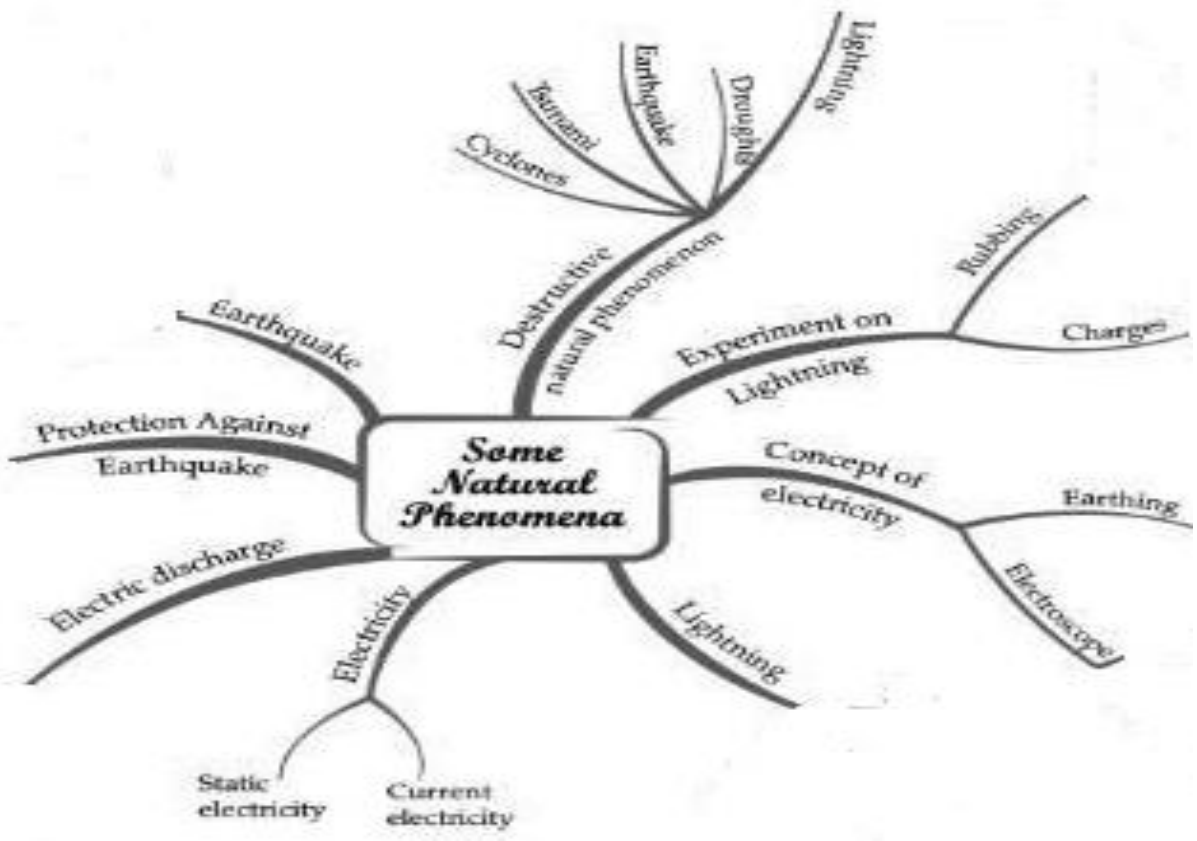

Experience and Reflection:

1. Students will learn about property and life loss caused by some natural phenomena that occur in daily life and beware of future occurrences.
2. Students take proper precautions in building construction to withstand future earthquakes.
3. Students will know the uses of earthing and must take appropriate measures to ensure earthing in house construction.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion on Lightning and introduction of Greeks history about sparks.	1. "Cyclones can cause a lot of damage to human life and property" – Group discussion	1. Students give examples of some natural phenomena.	1. Is flood a natural phenomenon?
2. Conduct activities on charging by rubbing.	2. Students conduct an activity	2. Students give examples of charged objects.	2. What happens when two objects are rubbed

			against each other?
3. Explain the process of charging by rubbing.	3. Students collect the information about charging by rubbing.	3. Students give reasons about why rubbing formed a charge on the objects.	3. How many types of charges are gained by rubbing objects?
4. Explain and conduct an activity on types of charges and their interaction with help of inflating two balloons, woolen and pen refills, polythene.	4. Students conduct an experiment on the interaction of charges.	4. Students collect the balloons, woolen cloth, pen refills and polythene articles.	4. What happens when a straw is rubbed with a sheet of paper?
5. Explain the concept of unlike charges attract each other and like charges repel each other.	5. Students describe the attraction and repletion of two charges.	5. Students complete the homework.	5. How does rubbing two objects cause equal and opposite charges?
6. Explain the transfer of charge through a simple electroscope by using a bottle, Aluminium foil, cardboard and a paper clip.	6. Students make a simple electroscope e and explain how to charge transfer.	6. Students draw the simple electroscope.	6. What are the uses of an electroscope?
7. Discussion and explain the story of lightning.	7. Students collect the information about recent cyclones, earthquakes and thunderstorms which caused major damage.	7. Students will read the story of Lightning.	7. What causes lightning?
8. Discussion and explain do's and don'ts during a thunderstorm.	8. A discussion on the role we should play when it comes to lightning	8. Students write precautions to be taken in case of thunderstorms.	8. What are 3 tips for lightning safety?
9. Explain the lightning conductors.		9. Students will give a reason, Why are lightning rods tall?	9. What is the best conductor for lightning?
10. Discussion on earthquakes.	9. Students draws the structure of the earth and its parts		
11. Explain the causes of earthquakes.	10. Students identify which places are in the danger zone on the India map.	10. Students frame any two questions on the causes of an earthquake.	10. What are the main causes of earthquakes?
12. Discussion and explain the working of seismograph.	11. Students explain the working of a seismograph	11. Draw a neat diagram of a Seismograph	11. What is the working principle of seismograph?

13. Discussion and explain of protection against earthquakes	12. Students watch a world wild documentary of effect of earthquakes	12. Students will collect information on earthquakes	12. Which is the most earthquake-resistant structure?

Check For Understanding Questions	TLM's (Digital + Print)
1. Factual: 1. Can thunderstorms occur without lightning? 2. Is cyclone is not a natural phenomenon? 3. What type of force is lightning? **2. Open Ended/Critical Thinking:** 1. Can earthquakes be prevented? 2. Why do thunderstorms happen at night? 3. What are the important considerations in making a house more earthquake resistant? **3. Student Practice Questions & Activities:** 1. Suggest three measures to protect ourselves from lightning. 2. Sometimes, a crackling sound is heard while taking off a sweater during winters. Explain. 3. Suppose you are outside your home and an earthquake strikes. What precaution would you take to protect yourself 4. Name the scale on which the destructive energy of an earthquake is measured. An earthquake measures 3 on this scale. Would it be recorded by a seismograph? Is it likely to cause much damage?	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links 5. IFP .

Assessment:

1. Describe with the help of a diagram an instrument which can be used to detect a charged body
2. What causes an earthquake?
3. Explain the precautions to be taken during lightning or thunderstorm.
4. List three states in India where earthquakes are more likely to strike.

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VISITING OFFICER WITH REMARKS

8th Class

PHYSICAL SCIENCE

LESSON PLANS

(2024 - 2025)

As per the guidelines of
Department of school Education, AP

Special Edition

I hope this book will be one of the ways to your Success...

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SPSMHS, GUDIVADA.
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